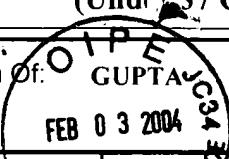


TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
KNS0002-US

In Re Application Of:



Serial No.

10/628,289

Filing Date

July 29, 2003

Examiner

Not Assigned Yet

Group Art Unit

2123

Title: PREDICTION OF CAVITY SIZE IN PACKED BED SYSTEMS USING NEW CORRELATIONS AND MATHEMATICAL MODEL

Address to:

Assistant Commissioner for Patents
Washington, D.C. 20231

37 CFR 1.97(b)

- The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

37 CFR 1.97(c)

- The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:
 - the statement specified in 37 CFR 1.97(e);
 - OR**
 - the fee set forth in 37 CFR 1.17(p).

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
KNS0002-US

In Re Application: GUPTA

Serial No.

10/628,289

Filing Date

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Examiner

Not Assigned Yet

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PREDICTION OF CAVITY SIZE IN PACKED BED SYSTEMS USING NEW CORRELATIONS AND
MATHEMATICAL MODEL

FEB 03 2004



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Dated: February 3, 2004

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 2

Complete if Known

Application Number	10/628,289
Filing Date	July 29, 2003
First Named Inventor	GUPTA
Art Unit	2123
Examiner Name	Not Yet Assigned
Attorney Docket Number	KNS0002-US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Apte, V.B et al., "Stress Distribution in a Packed Bed Above Raceway Cavities Formed by an Air Jet", <u>AIChE Journal</u> , Vol. 36, No. 3, pp. 461-468 (March 1990).	<input type="checkbox"/>
		Apte, V.B. et al., "Gas Flows in Raceways Formed by High Velocity Jets in a Two-Dimensional Packed Bed", <u>Chem. Eng. Res. Des.</u> , Vol. 66, pp. 357-362 (July 1988).	<input type="checkbox"/>
		Chong, Y.O. et al., "Operating Mechanism of a Conical Fluidized Bed", <u>Fluidization and Industrial Applications</u> , Chapter 36, pp. 1127-1144.	<input type="checkbox"/>
		Doyle, III, F.J. et al., "The Phenomenon of Pinning in an Annular Moving Bed Reactor with Crossflow of Gas", <u>Chemical Engineering Science</u> , Vol. 41, No. 6, pp 1485-1495 (1986).	<input type="checkbox"/>
		Elliott, J.F. et al., "Physical Conditions in the Combustion and Smelting Zones of a Blast Furnace", <u>Journal of Metals</u> , pp. 709-717 (July 1952).	<input type="checkbox"/>
		Flint, P.J. et al., "A Fundamental Study of Raceway Size in Two Dimensions", <u>Metallurgical Transactions B</u> , Vol. 23B, pp. 267-283 (June 1992).	<input type="checkbox"/>
		Hatano, M. et al., "Analysis of the Combustion Zone in the Experimental Blast Furnace", <u>Transactions ISI</u> , Vol. 17, pp. 102-109 (1977).	<input type="checkbox"/>
		Jackson, R. et al., "Shorter Communication Further Consideration of the Effect of Aeration on the Flowability of Powders", <u>Trans IchemE</u> , Vol. 59, pp. 119-121 (1981).	<input type="checkbox"/>
		Lister, J.D. et al., "Size Hysteresis in a Two Dimensional Model Raceway", <u>The Nineteenth Australasian Chemical Conference Newcastle, Australia</u> , 18 th -20 th , pp. 476-483, September 1991.	<input type="checkbox"/>
		MacDonald, J.F. et al., "Void Formation in Stationary and Moving Beds", <u>Chemical Engineering Science</u> , Vol. 52, No. 5, pp. 677-691 (1977).	<input type="checkbox"/>
		Nishi, Tetsu et al., "Relationship between Shape of Raceway and Productivity of Blast Furnace Taking Account of Properties of Coke Sampled at Tuyere Level", <u>Transctions ISI</u> , Vol. 22, pp. 287-296 (1982).	<input type="checkbox"/>

Examiner Signature	Date Considered
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* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 2

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Application Number	10/628,289
Filing Date	July 29, 2003
First Named Inventor	GUPTA
Art Unit	2123
Examiner Name	Not Yet Assigned
Attorney Docket Number	KNS0002-US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

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		Povermo, J.J. et al., "An Experimental Measurement of Raceway Dimensions in Bethlehem Steel Corporation's Bethlehem, Pa. Plant", pp. 383-401.	
		Sarkar, S. et al., "A Cold Model Study of Raceway Hysteresis", <u>Metallurgical and Materials Transactions B</u> , Volum 34B, pp. 183-191 (April 2003).	<input type="checkbox"/>
		Sastry, G.S.S.R.K. et al., "Cold Model Study of Raceway Under Mixed Particle Conditions", <u>Ironmaking and Steelmaking</u> , Vol. 30, No. 1, pp. 61- 65 (2003).	<input type="checkbox"/>
		Sastry, G.S.S.R.K. et al., "Void Formation and Breaking in a Packed Bed", <u>ISIJ International</u> , Vol. 43, No. 2, pp. 153-160 (2003).	<input type="checkbox"/>
		Szekely J. et al., "A Mathematical and Physical Representation of the Raceway Region in the Iron Blast Furnace", <u>Metallurgical Transactions B</u> , Volume 6B, pp. 119-129 (March 1975).	<input type="checkbox"/>
		Tsinontides, S.C. et al., "The Mechanics of Gas Fluidized Beds with an Interval of Stable Fluidization", <u>J. Fluid Mech.</u> , Vol. 255, pp. 237-274 (1993).	<input type="checkbox"/>
		Wagstaff, J.B. et al., "Comparison of Blast Furnace Penetration with Model Studies", <u>Journal of Metals</u> , pp. 370-376 (March 1957).	<input type="checkbox"/>
			<input type="checkbox"/>
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Examiner Signature	Date Considered
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